

U.S.S.N 10/014,731  
Monforte  
PRELIMINARY AMENDMENT

IN THE CLAIMS:

Please replace claims 1, 13, 24, 25, 27, 29, 34, and 36-40 with the following amended claims (a marked up copy of the amended claims is attached to this Amendment):

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1. (Amended) A method of detecting one or more polypeptides in a sample, the method comprising:

a) contacting the sample with at least one genetic package that displays a polypeptide-binding component, wherein:

the genetic package comprises a predetermined marker component; and

the polypeptide binding component specifically binds to at least one of the polypeptides;

b) amplifying the genetic package, resulting in an amplified genetic package, or amplifying the marker component in the genetic package; and

c) detecting the marker component, wherein the presence of the marker component indicates the presence of the one or more polypeptides.

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13. (Amended) The method of claim 1, wherein in step (a) contacting the sample with the at least one genetic package comprises contacting the sample with a plurality of bio-displayed polypeptide binding components.

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24. (Amended) The method of claim 1, wherein the predetermined marker component comprises one or more signature polypeptides.

25. (Amended) The method of claim 24, wherein at least one of the one or more signature polypeptides is derived from hemoglobin.

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27. (Amended) The method of claim 1, wherein the predetermined marker component comprises a nucleic acid fragment.

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29. (Amended) An integrated system for detecting one or more polypeptides in one or more samples, the system comprising:

a) a solid support comprising the one or more polypeptides;

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cont'd

- b) a plurality of bio-displayed polypeptide binding components that bind to one or more of the one or more polypeptides, and are each associated with a different marker component;
- c) an assay module for amplifying or expressing the marker component;
- d) a detection module for receiving the marker component or a derivative thereof, wherein the detection system detects one or more different marker components and determines an amount of the one or more different marker components; and,
- e) an analyzing module in operational communication with the detection system that comprises a computer or computer readable medium comprising one or more instruction sets for correlating the amount of the one or more different marker components with the one or more polypeptides.

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34. (Amended) The system of 33, wherein the analyzing module correlates the ratio to a ratio of at least a first polypeptide to at least a second polypeptide in the one or more samples.

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36. (Amended) The system of claim 35, wherein the computer or computer readable medium comprises an instruction set for organizing the data points into a database that comprises a profile for the one or more samples.

37. (Amended) The system of claim 36, wherein the profile for the one or more samples identifies an expression level of at least one of the one or more polypeptides in the sample and a functional state of at least one of the one or more polypeptides in the sample.

38. (Amended) The system of claim 29, wherein the one or more instruction sets comprise software for generating a graphical representation of the amount of the one or more polypeptides.

39. (Amended) The system of claim 35, wherein the one or more instruction sets comprise software for performing multivariate analysis for the plurality of data points.